

REMARKS

Claims 1-5, 7, 9-19, 21, 22, 25, 26, 28, 29, 31, and 32 are presented for further examination. Claims 1-5, 7, 17-19, 21-22, 25, and 28 have been amended. Claims 6, 8, 20, 23, 24, 27, and 30 have been canceled. Claims 31 and 32 are new.

In the Office Action mailed December 17, 2003, the Examiner rejected claims 1-3, 17-18, 20, 24, and 30 under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,305,221 ("Hutchings"). Claims 4-5, 8-10, 19, 21, 25, and 26 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hutchings in view of U.S. Patent No. 6,251,048 ("Kaufman"). Claims 6-7, 11-16, and 27-29 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hutchings in view of Kaufman and further in view of U.S. Patent No. 5,921,890 ("Miley"). Claims 22-23 were rejected over Hutchings in view of Miley. Remarks accompanying these rejections state that "Hutchings does not disclose nor does Kaufman teach an exercise device or method with a processor configured to determine and display a swimmer's stroke pattern." The remarks further state that "Miley teaches an exercise device with a processor configured to determine parameters associated with swimming, including stroke pattern and stroke count." (See final Office Action, page 9.)

Applicants respectfully disagree with the bases for the rejections and request reconsideration and further examination of the claims.

Miley (U.S. Patent No. 5,921,890)

Miley is directed to a programmable audible pacing device that allows a user "to visualize and confirm data, for example, said time intervals that have been input into the device." (See Miley at column 2, lines 34-36, emphasis added.) Thus, Miley teaches that prior to use, a user stores in a "user-programmable memory" a "plurality of sets of time intervals." Miley also discloses the use of a processor within the device that permits the device to calculate and accommodate multiple time intervals and to equate this with any additional data. An input unit is provided to "allows the user to input the relevant data such as the time intervals" that is "then stored by a memory in the input unit." (See Miley at column 3, line 61 through column 4, line 6.) Nowhere does Miley teach or suggest a device that can process data while or after a

swimmer is swimming. Rather, all information processed by Miley is entered by a user for display only to a swimmer while the swimmer is in the process of swimming. Miley does not have any capacity or capability for processing signals input from an accelerometer and, as such, would not teach one of ordinary skill a processor capable of receiving continuous input signals from the sensors and generating stroke pattern information therefrom.

Hutchings (U.S. Patent No. 6,305,221)

As discussed in the previous amendment, Hutchings is directed to a device that measures the distance traveled, speed, and height jumped of a person while running or walking. Hutchings specifically recognizes the use of pacing devices, such those provided by Miley, at column 1, lines 61-64: "Pacing timers generate a repetitive audio tone signal at selected intervals for pacing the strides of the jogging, where the length of the intervals between tones is adjusted to suit the pace of the individual jogger." Hutchings further recognizes that such pacing devices are useless with respect to sensing systems such as that provided by the applicant as well as Hutchings. "Thus, pacing timers can provide no more than a constant running pace, and pedometer measurements are only useful as an approximation of distance traveled." (See Hutchings at column 2, lines 34-36.)

Discussion of Claims

Turning to the claims, claim 1 is directed to a device for determining and displaying information about the repetitive movement of a swimmer's body. The device comprises a sensor assembly having at least one static acceleration sensor configured to be mounted to the swimmer's body and to generate at least one static acceleration signal when the swimmer is swimming; and a processor coupled to the sensor assembly and configured to determine at least one from among a stroke identification, a stroke count, a stroke pattern, a lap count, and a breathing pattern in response to only the at least one static acceleration signal and to provide a signal for display.

In essence, claim 1 is now dependent claims 6 and 8 combined together in independent form with base claim 1. Inasmuch as claim 6 was rejected as obvious over the

combination of Hutchings, Kaufman, and Miley, applicants respectfully submit that claim 1 is allowable over the combination of these references for the reasons discussed above with respect to Miley and Hutchings. More particularly, Miley is directed to a pacing device that is preprogrammed with pace information that is displayed to a swimmer. Hutchings, as discussed above, teaches away from such devices and recognizes that Miley's invention is irrelevant with respect to the claimed invention because it cannot even exploit the information provided by the claimed invention much less the information provided by Hutchings or Kaufman. In view of the foregoing, applicants submit that claim 1 is clearly allowable.

Independent claim 2 is directed to a device for determining and displaying information about the repetitive movements of a swimmer's body that includes a sensor assembly having first and second acceleration sensors for generating first and second static acceleration signals in response to movement of the swimmer's body when swimming and a processor and display device coupled to the sensor assembly and configured to provide a real-time, continuous display of a stroke pattern of the swimmer's body in response to only the first and second static acceleration signals. Claim 2 is distinguishable over the combination of Hutchings, Kaufman, and Miley for the reasons discussed above with respect to claim 1, *i.e.*, as a pacing device Miley is unable to utilize the first and second static acceleration signals in the manner recited in claim 2. One would not be motivated to combine these references in the manner suggested by the Examiner for the reasons discussed above, *i.e.*, Hutchings recognizes the limitations of Miley's pacing device and would not be motivated or able to utilize the same.

Even if one were motivated to combine the references as suggested by the Examiner, the combination would fall short of the present invention in a number of respects. Most importantly, the processor of Miley would fail to function either as claimed or to meet the purposes of Hutchings because Miley does not teach the processor as having the capability to process static acceleration or dynamic acceleration signals. In view of the foregoing, applicants respectfully submit that claim 2 and remaining dependent claims 3-4 are clearly allowable.

Independent claims 5, 12, 17, and 25 are all directed to a device or respective method for determining and displaying information about a swimmer's body while swimming, and particularly stroke movement or stroke pattern information. Applicants respectfully submit

that these independent claims and all claims depending therefrom are allowable for the reasons discussed above with respect to independent claims 1 and 2.

New independent claims 31 and 32 are directed to a system and method for display of a swimmer's stroke pattern, respectively that consist of first and second accelerometers mounted to the swimmer's back to generate corresponding acceleration signals that are processed by a processor for display on a display device. Applicants submit that these claims are allowable for the reasons discussed above with respect to claims 1 and 2, and in addition for the reason that Hutchings teaches mounting of the device on the user's wrist. Moreover, Hutchings teaches at Col. 20, lines 54-56, that requires use of both accelerometers and magnetometers because Hutchings must detect the beginning and end of each cycle in order to provide an accurate count. Claims 31 and 32 utilize the restrictive transitional phrase "consisting of" which limits the claimed invention to the recited elements.

In light of the foregoing, all of the claims remaining in this application are now in condition for allowance. In the event the Examiner finds minor informalities that can be resolved by telephone conference, the Examiner is urged to contact applicants' undersigned representative by telephone at (206) 622-4900 in order to expeditiously resolve prosecution of this application. Consequently, early and favorable action allowing these claims and passing this case to issuance is respectfully solicited.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

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